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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,270	07/09/2004	Jean-Pierre Germain	Serie 5831	6035
7590 01/23/2008				
Air Liquide Intellectual Property Department 2700 Post Oak Blvd Ste. 1800 Houston, TX 77056			EXAMINER ALI, MOHAMMAD M	
			ART UNIT 3744	PAPER NUMBER
			MAIL DATE 01/23/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/501,270

Applicant(s)

GERMAIN, JEAN-PIERRE

Examiner

Mohammad M. Ali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-25, 27-35, 37-44 and 46-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-38 and 52 is/are allowed.
- 6) ☒ Claim(s) 22-25, 27-31, 39-44, 53 and 46-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22-25, 27-31 and 39-41, 43-44, 46-51 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller et al., (5,036,673). Miller et al., disclose a method and apparatus which may be used to cooling a stream of gaseous fluid (air recirculating by the fan 14 and confined the flow of recirculated air in the both in the inner cylinder 12 and the annular space (outer cylinder) comprising a mixing area/inner cylinder 12 through which the stream passes; at least one impact surface (fan blade 14 on which the air stream impacts as seen by the airflow indicating arrow on the fan 14) located inside the are 12; and a spraying means 17 spraying liquid nitrogen into the are 12; wherein the injection zone has a cross section smaller than that of the portion of the area containing the impact surface and greater than that of the spraying means 17; while spraying through nozzle 17 increases the cross section of the flowing stream (see the flow stream at the nozzle 17); slowing the flow rate of the fluid by increasing the cross section of the stream by a larger cross sectional flow area of the inner cylinder 12 in respect to the annular cross sectional flow area formed by the space between the inner cylinder 12 and the outer drum at the entrance of the recirculated fluid near the bottom of the inner cylinder 12 and the bottom of the drum 2; recovering the cooled fluid

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by recirculating or getting back fluid in the inner cylinder 12 and applying the recovered fluid to objects (droplets of liquid egg/food stuff/article) 23; diverting at least a portion of the cooled fluid and exiting the confinement through outlet 28. (or see column 5, lines 66-68) for cooling and freezing, the cooled fluid being cooled to between -40 degree C to -160 degree C (see claim 4). See Fig.1, column 4, line 4 to column 5 line 68.

Regarding injecting pipe for injecting said gaseous fluid into said mixing pipe for claim, the annular cross sectional opening of the outer cylinder though out or injects the gaseous fluid (air) in to the mixing area (inner cylinder 12).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. Miller et al., disclose the invention substantially as claimed as stated above.

However, miller et al., do not disclose chocolate. Miller et al., teach to cool liquid egg droplets (a food stuff similar to the claimed invention to cool chocolate an another food stuff). Therefore, Miller et al., obviously read the claimed invention. Regarding the position of impact surface, it is an obvious design choice to one of ordinary skill in the art to place it at the upstream or down stream end of the mixing pipe.

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Allowable Subject Matter

Claims 32-38 and 52 are allowed.

Response to Arguments

Applicant's arguments filed 12/17/07 have been fully considered but they are not persuasive fully. The Applicant argued, "Miller fails to disclose, teach or suggest all of the limitations of claims as amended, in particular, introducing a confined stream of gaseous fluid into a chamber and spraying liquid nitrogen into the stream, where the steps of slowing and spaying are performed within the chamber." The Examiner disagrees. The examiner mentioned in the above rejections that the circulated air(gaseous stram) is confined both in the inner cylinder and in the outer annular space 20 from which it is flowing/injected into the inner cylinder 12 . Therefore, rejections are proper. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad M. Ali whose telephone number is 571-272-4806. The examiner can normally be reached on maxiflex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4808. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
MOHAMMAD M. ALI  
PRIMARY EXAMINER

Application/Control Number: \*\*\*

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